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THE NECESSITY OF PHYSICAL EDUCATION

AND

The Means of Introducing it into
American Schools.

BY

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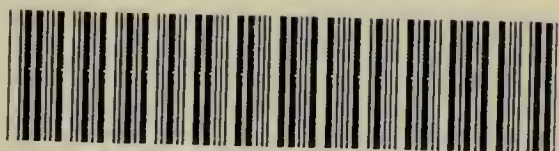
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The Necessity of Physical Education and the Means of Introducing it into American Schools.

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PROPORTIONATELY as the world grows democratic, so mankind wakens to the fact that the standard by which men should be compared cannot be one of wealth, nor of knowledge, nor of birth, nor of any artificial make, but that it must be one of culture; as democracy has grown out of popular education, so the propagation of culture has become the vital consideration of all true men.

But while the promoters of civilization in this grand amalgamation of countries and of races — the United States — have clearly been infused with the importance, the necessity, of education, yet, until recently, it appears as if they had overlooked or underestimated

the fact that man, after all, is an animal, and that to be perfect, first of all "man must be a perfect animal," to quote from an eminent American writer. It is thus that education has largely become a cultivation of knowledge, instead of a cultivation of man as an individual forming an integral part of the chain which joins *That which always was* to *That which always will be* — a cultivation of the race with a progression towards perfection. The highest aim of education must of necessity be to so improve each generation, that the good acquired or produced by art in that generation may finally become inherited, produced by nature; to make each man, each woman, contribute to the advancement of humanity by making them *fill* the place assigned to them.

Obviously, then, education is a training of the individual in order to develop to the highest degree his possibilities for good. Hence each individual must be considered by himself, a unit, a thing complete or incomplete as related to himself. Since Man possesses body, mind and soul, he becomes complete only when the physical, mental, and moral forces within him exist in equilibrium and combine towards harmonious action, — when body and mind together form the expression of the soul. When this expression is good, then man possesses culture. Culture of the whole, however, presupposes culture of the parts, and thus man cannot become perfect until each phase of his nature has

reached its acme of power. The popular education of to-day provides amply for intellectual and moral improvement, but does it do as well for the physical? If not, then popular education in this country is as yet incomplete, and must so remain, until physical training forms a part proportionate in quality and quantity to the other two.

Moreover, is it possible to acquire the highest degree of intellectual and moral culture without proper attention to the physical, if we accept that intellectual education includes the elements of knowledge and of discipline, that moral education is designed to cultivate adherence to duty; and that discipline and duty are both founded upon self-control? We must answer in the negative; for self-control, in the broad meaning which we must give to that word, implies control of the mind over the body as well as over itself, so that the good impulses of the one will enhance those of the other, and the evil impulses will be restrained. Granted also that the brain is the seat of the mind, and that "morals" depend upon the activity of the brain and of the sympathetic nervous system, it follows, first, that healthy activity of the brain and of the sympathetic nerve is a matter of necessity; second, that since healthy impulses from the sympathetic nerve depend upon a normal activity of the functions in general, it becomes evident that the purely physical condition will largely control the intellectual and the moral forces,

Physical education or the systematic training of the physical powers to produce and to preserve health, then, must be regarded as an urgent necessity, and as the basis of all other education.

Since the belief has obtained that knowledge is power, that mind is all important, matter of but little consequence, the mind has been nursed with hot-house care, the body abused in proportion ; meanwhile, civilization has gradually taken a form where the physical surroundings tax the bodily tenacity to the utmost, so that physical strength becomes more than ever the condition for the survival of the race. Is it not, then, of the greatest importance that the growing be provided with some means to withstand this pressure of civilization ? Or, is it better to rely on the physician and the druggist to counteract these constant efforts to separate the mind from its abode ? It is probable that man was given a body for some purpose other than abuse ; that it was intended to form an aid in the evolution of the soul ; and that, as such, it will be of the greatest value only when it possesses the utmost power. Hence, let us endeavor to train the physical forces, so that they may become proportioned to the demands made upon them by intellectual, moral, and civilized life ; in other words, let us make physical training a compulsory part of popular education.

Then, if physical training is to be introduced, how is it to be taught, where, and by whom ?

The first of these questions may be interpreted thus : What system of gymnastics should be used, and what can reasonably be demanded from the one chosen ? If I suggest to you that the so-called Swedish system be used, I will not only give good reasons for so doing, but I will also make an additional suggestion — one which will perhaps surprise those who do not realize that a true teacher of gymnastics recognizes no one-ideaism — I shall suggest that the Delsarte system of expression be made to supplement the Swedish exercises.

Let us inquire into what a system of educational gymnastics should contain. For school purposes it should be a general, physical education, without regard to special training. It should aim at the development of health rather than that of physical dexterities. For he possesses physical culture whose body is in a fairly normal functional activity, and who has his conscious forces well controlled. Special skill, such as is found in the professional athlete, may be necessary for freaks and clowns, who live and die to amuse the crowd, but for an average individual it is undesirable, since it will be found that no part of the body can be trained to possess exceptional power unless other parts are correspondingly neglected, the usual outcome of such training being ill-health or lack of physical equilibrium. The body is to be exercised for its own sake, so that its parts may become properly balanced to form one smooth complete whole, where the force inherent in

the germ has reached its acme of power; it matters little whether this power is greater or less than that of others. All cannot reach the same intensity of either intellectual or physical force, and yet he who attains the utmost of his abilities has succeeded in filling his place as perfectly as those who may have outwardly surpassed him.

The exercises to be used should aim to perfect the functional rather than the mechanical activity of the body; they should be so constructed that they heighten respiration, circulation, metabolism, etc., and hence they must be based upon the laws of physiology. They must also conform to the laws of anatomy and animal mechanics, for reasons so often demonstrated that they hardly need a review.

To develop the body as a whole, the exercises must cultivate forms of movement common in everyday life; for such a purpose comparatively few forms are necessary, and many must be eliminated even though they may be anatomically and gymnastically possible of execution. For, first of all, we consider the physical and physiological effects of the exercise, and not until we are satisfied that those effects are needed do we apply the movement; no time should be wasted on practically useless movements; and it follows without saying that no exercises are to be applied whose effects are injurious or in the least doubtful. In physical education it is necessary to be quite as exact as in intellectual edu-

cation. In the Swedish system the exercises have been carefully thought out and investigated as to effects ; and in its present shape the system offers the most complete general body education of any as yet produced. But it does still more ; whole classes of exercises have been introduced especially to counteract the tendencies to abnormal development produced by perverted civilization, so that special attention is given to the correction of posture and general outline, the system thus embracing both sides of education ; it teaches and it corrects.

The exercises should be so arranged that they make the mind conscious of the body ; for as all movement originates in the will, it is necessary for this will to be so intimately connected with the motor forces that they yield to even its slightest impressions. In other words, there should be the utmost concentration of the mind into the body during the exercises. This is true according to our definition of culture, given above. The body is to be the servant of the mind, hence it should be subordinated to the will and always ready to respond to it. Intellectual education tending to disconnect mind and body by concentrating the intellect upon abstract subtleties external to the body, distracting thought — the ever-living — from body — the ever-dying — it should be the aim of physical education to restore that psycho-physiological equilibrium, whose complete disorganization is identical with temporal

death. The object of man being first of all to live in the flesh, education, therefore, should bring forth the best conditions for such life, or prove a failure.

It is to be understood, however, that any and all exercise does not necessarily produce this conscious harmony between mind and body, but that this effect is accomplished only by exercises requiring the utmost volition. An easy way to call forth this consciousness is the use of commands in applying the exercises; for by these the pupil is forced to concentrate his mind upon his movement, to the exclusion of all other considerations; his mind returns into his body, his soul into its abode. This makes the pupil conscious of himself—conscious of his power; not self-conscious or conscious of his lack of power, whether this (or the lack of it) be physical, mental, or moral.

The use of commands also aids in cultivating discipline, another necessity of education. The subordination of the body to the mind producing self-control, the foundation of discipline is laid by the exercises cultivating the response to volition; and now we arrive at the next stage of its evolution, the will subordinating itself to that of another. The teacher determines the movement and communicates his will by the spoken order, the pupil's will obeys, and the movement then occurs through his mediation. Obedience finally becomes acquired and blended into the character of the

pupil ; and the embryo will grow into the law-abiding mind of a citizen, a man of power and self-control.

The exercises should develop the body in a two-fold direction, that of force and that of motor coördination. All organs and tissues grow when properly exercised, *i. e.*, when there is a gradual increase in the demand made upon their action. Thus the power of the lungs, within certain limits, grows with the increased absorption of oxygen in the body ; that of the heart or other muscles, with the resistance offered to their contractions provided the resistance is kept within the easy limits of normal contraction, etc. ; and hence the exercises should have a progression from the easy to the strong in even pace with the development of physical force, bearing in mind that although the growth of muscular fibre decides this progression, the muscles are merely tools by which we exercise and affect internal organs, and that it is the relative activity of the latter and not the size of the muscles on which we should base our conception of physical power. It can be stated, generally, that the power of the body depends on the equilibrium between its three leading properties, — extensibility, contractility, and elasticity, — and that, to be complete, a system of gymnastics should contain movements to develop this trinity ; yet so, that when applied as a means of education, movements of contraction are not practiced where contractility already predominates, nor movements of relaxation where ex-

tensibility prevails, etc.; for general education, whether physical or mental, is intended to bring forth that which is undeveloped, and not to cultivate special proclivities.

But of even more importance than the cultivation of force is that of motor coördination, for this is a training of the will and of the response to it in nerves and muscles. It may be well to have a muscularly strong arm and leg, but unless they readily respond to all the shades of volition to produce quick or slow, gentle or powerful motions, those limbs are of but little use, their movements become unwieldy and energy is wasted. Training of coördination is a training of the speed as well as of the intensity of motor impulses, intended to produce exactness of effect, so that only the energy necessary is expended for the movement. The cultivation of speed of motion is of no little consequence, since speed may often substitute the lack of actual force in overcoming resistance. A system of gymnastics must contain both rapid and slow movements in order that a graded receptiveness to motor impulses may become developed, and usually so that the quick movement precedes the slow one, the former producing the rapid succession of thought and action, the latter cultivating the control of concentrated energy.

Movements should be practised until their coördination becomes registered in the centres of automatic action, so that their correct execution may grow to be inherent and comparatively independent of volition.

At this point a still more difficult combination should take its place for practice, for the automatic movement is not developing, and hence should be relegated to places of review. In this manner the exercises should follow each other to form an ever-increasing stimulus to the evolution of volition and of coördination, the pupil gradually acquiring that control of mind over body which constitutes the dexterity of physical, everyday life; his movements become well-regulated as to space, time, and purpose, and grace of movement results, for grace is synonymous with perfect voluntary and automatic coördination.

But while this is going on, motor centres in the brain are being exercised, and that which always follows systematic exercises of any organ—development—results. The nutrition of brain tissue increases, cell is added to cell, and the power, the functional activity, of all the motive portion of the brain is heightened; and like phenomena occur throughout the peripheral, neuromotor apparatus. Meanwhile that portion of the nervous mechanism which is intended to carry impulses to our perceptions is kept comparatively at rest. Under ordinary circumstances, the emotive neuro-apparatus is constantly being kept in activity, a condition tending to disturb the equilibrium of the different nervous systems. The practising of muscular movements necessitating full volition will restore and retain this equilibrium. It is just on account of the effect upon the nervous system

that gymnastics may become truly educational ; for the coördination of movement produced is really a coördination of thinking, and the exercises will thus have a direct influence upon the activity of the mind. The investigations of Pres. W. De Witt Hyde of Bowdoin, Dr. H. D. Wey of Elmira, and others, amply verify this statement.

An account of the results in brain development from the proper alternation of symmetrical and unilateral movements would be interesting as an illustration of this point, but must be deferred.

Exercises done with the utmost volition to produce an exact coördination develop in the pupils that great power which we call *repose*, or the control of force to hold immovable that which is not absolutely needed for perfect action. Muscular isolation and coördination are mere expressions of the power to localize effort ; if it exists in the concrete it will also in the abstract. Once developed, this repose will manifest itself in the thinking that is directed from the body as well as in that which is directed into it. Since this effect upon the mind through the body can be achieved by exercise, that system which accomplishes the most in this direction should be introduced into the schools. The Swedish system fills this requisite better than any other, and hence is the one best suited for educational purposes.

Before concluding, allow me to make a few suggestions as to the manner of introducing physical training into

the schools. The problem is not as easy of solution as some have supposed: for not only are the schools of this country numerous, but the classes are large and numerous as well, and if special instruction must be engaged the expense of gymnastics will be very great. If any one should labor under the erroneous impression that special instructors are not necessary, let me state most emphatically that to teach gymnastics a special education and a natural aptitude are indispensable, for in order to accomplish the best results, the one who applies gymnastics must be thoroughly familiar with all those sciences which are fundamental to gymnastics—and, believe me, it takes more time and study to acquire this knowledge than the average school teacher is willing or able to give; and even then a majority of teachers will find that teaching gymnastics is quite a different thing from giving object lessons or hearing recitations:—many an otherwise good teacher would prove a failure as far as physical training is concerned. At least, practical tests have proved this in several instances.

But since the expense makes it inexpedient to engage many special instructors, what would be the next best solution of the problem? To let each teacher in the kindergarten, primary and lower grammar grades teach her own class, or let one of the teachers in each building apply the exercises throughout all the classes, and to have special instructors in the upper grammar and high

schools who can easily visit several schools in a day. At the head of it all should be a supervisor or director of gymnastics, who should give weekly instructions to the teachers, thoroughly drilling them on what to do and how to do it. The director could be conveniently assisted in this work by the special instructors ; but all supervision should be left to him. The director must necessarily be an expert and an experienced teacher of gymnastics, not merely a figure-head, drawing his salary, and relying on others to do his work. He should possess that broad knowledge of gymnastics which enables the teacher to carry out the kinesiological progression under the peculiar circumstances by which he will be surrounded in this country. For it is to be remembered that while the Americans form one nation, yet that nation is made up of the most different nationalities and races, each with its peculiar characteristics ; and even though "anatomy and physiology are the same the world over," there is no eluding the fact that mental power is not the same, and that hence nationality and race must influence the choice of exercise as well as the progression. My advocating the introduction of the Swedish system may appear like a contradiction, and, you may think, that an "eclectic system, embracing the best of all" would be more suitable. But the Swedish system *is* eclectic, it embraces the best of all, and ample provision is made in it for modifications necessitated by the surroundings. Swedish gymnastics are educational

according to the principles of general kinesiology, and have been called Swedish because they were scientifically arranged by a Swede, not because they were intended for the Swedes alone ; like all other sciences, they are cosmopolitan, and belong to the world at large. The school-board should decide the *esse* or *non esse* of gymnastics, but should wisely leave it to the director to decide the form. The prefix *Swedish* to-day in this country, merely stands for *rational*, even though much is passed off as Swedish which has but little in common with it but the name.

Whosoever teaches gymnastics must remember that he has to develop individuals, and that he should use the best means, so that if one way does not succeed he is ready to try another. There are no set forms of drill to fit all classes or teachers, any more than there is one size and shape of clothing that will fit all men.

In order that the best results should be obtained, gymnastic apparatus is a desideratum, and it is only a question of time when every grammar and high school will have its own gymnasium. For the lower grades, however, free-standing exercises in the school-room will always prove sufficient, and will, moreover, lay a good foundation for the more advanced work in the gymnasium. To sum up : physical education is a necessity ; it is best taught by special instructors, and the Swedish system is recommended as the best.

Although the Swedish system is complete in itself as a system of physical training, æsthetical gymnastics might be added for very advanced classes. For while educational gymnastics develops the body and cultivates the mind, the æsthetical goes a step farther ; it brings out the relation between the body and the soul. Conceded that all thinking is done with motor centres, mind and body in their action are really one, the physical, temporal, or motive side of man ; the soul is the part, spiritual, eternal, emotive. To make man complete, these two sides must be so united as to work in harmony and mutual dependence—one to form an expression of the other.

Then after Swedish gymnastics has developed a strong body, the ready tool of the mind, let the Delsarte system of expression round off the man, and make him more perfectly a unit, the oneness growing out of the harmony of body, mind and soul—a perfect trinity.



